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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,611	10/06/2003	Tapesh Yadav	A9 DIV(12)	3294
25235	7590	04/05/2005	EXAMINER	
HOGAN & HARTSON LLP ONE TABOR CENTER, SUITE 1500 1200 SEVENTEENTH ST DENVER, CO 80202			FAISON, VERONICA F	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/679,611

Applicant(s)

YADAV ET AL.

Examiner

Veronica F. Faison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Claims 17-41 have been amended; no claims have been added or canceled.
Hence, claims 17-41 are pending in the application.

Response to Arguments

Applicant's arguments with respect to claims 17-41 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 25-31 and 34-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 25-31 recites the limitation "the filler" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 34-41 provides for the use of a screen printable formulation, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it

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merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17, 20-23, 34 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Imasato et al (US Patent 5,127,951).

Imasato et al teach an aluminum pigment that may be used in printing ink such as screen-printing (abstract and col. 1 lines 15-17). The reference further teaches that the aluminum pigment is a flake (plate) and maybe present in a paste form (col. 7 lines 13-20). In Example 1, the reference discloses that the particle thickness (domain size) of 0.133 μ (133 nm). However, the reference remains silent to the aspect ratio greater than one. However this is an inherent property, because the aluminum pigment is a flake (plate) and a flake (plate) is known to have an aspect ratio greater than one. The composition as taught by Imasato et al appears to anticipate the claimed invention.

Claims 24, 28-31, 36 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi et al (US Patent 5,891,986).

Yamaguchi et al teach an aromatic polyimide composition. The composition may include various fillers such as metal and ceramic powders that include silver, gold, copper or aluminum to make an electroconductive paste and silica or alumina to make a thixotropic composition (col. 5 line 57-col. 6 line 13). The reference further teaches that an alumina (Al_2O_3 , ceramic) fine powder which has a particle size (domain size) of 20 nm is added to the composition, which is then kneaded to give a paste for screen-

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printing. The paste was coated on a glass plate with a 200 mesh screen-printing film (Example 5). The composition as taught by Yamaguchi et al appears to anticipate the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 32, 33 and 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lutz et al (US Patent 5,011,627).

Lutz et al teach a screen-printable conductive paste consisting of a metal powder (silver, aluminum, copper and their mixtures), which may be used as a conductive coating (abstract and col. 2 lines 20-23). The reference further teaches that platelet

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shaped material with an average grain size smaller than 15 μm is preferably used (col. 3 lines 2-4).

Lutz et al and the claims differ in that Lutz et al does not teach the exact same proportions as recited in the instant claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Lutz et al overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Lutz et al also fail to specifically exemplify the use of copper as claimed by applicant. Therefore, it would have been obvious to one of ordinary skill in the art to use copper as claimed by applicant as Lutz et al also discloses the use of copper but shows no example incorporating them.

Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imasato et al (US Patent 5,127,951) as applied to claims 17, 20-23, 34 and 35 above, and further in view of Nakayama et al (US Patent 5,718,047).

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Imasato et al is described above, but fails to teach nanowhiskers and fibers.

Nakayama et al teach a conductive paste comprising a conductive filler, which may include metal fillers that are particles, fiber, whisker or a flake (plate) of metals including gold, silver, copper, or alloy or oxide thereof (col. 5 lines 51-61).

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have replaced flake (plate) with fiber, whisker because the substitution of art recognized equivalents as shown by Nakayama et al would have been within the level of ordinary skill in the art.

Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al (US Patent 5,891,986) as applied to claims 24, 28-31, 36 and 37 above, and further in view of Nakayama et al (US Patent 5,718,047).

Yamaguchi et al is described above, but fails to teach nanowhisker, fibers and plates.

Nakayama et al teach a conductive paste comprising a conductive filler, which may include metal fillers that are particles, fiber, whisker or a flake (plate) of metals including gold, silver, copper, or alloy or oxide thereof (col. 5 lines 51-61).

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have replaced particles with fiber, whisker or a flake (plate) because the substitution of art recognized equivalents as shown by Nakayama et al would have been within the level of ordinary skill in the art.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

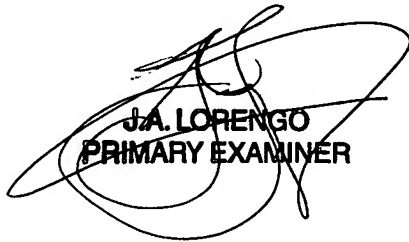
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Veronica F. Faison whose telephone number is 571-272-1366. The examiner can normally be reached on Monday-Thursday and alternate Fridays 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VFF
4-1-05


J.A. LORENZO
PRIMARY EXAMINER